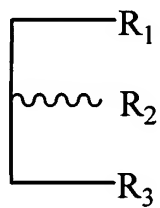


WHAT IS CLAIMED IS:

1. A method for treating a host infected with a togavirus, a coronavirus or a herpes virus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula I:



wherein:

R₁ is -NHC(O)Y, where Y is C₁-C₂₂ alkyl, C₂-C₂₂ alkenyl, or C₂-C₂₂ alkynyl;

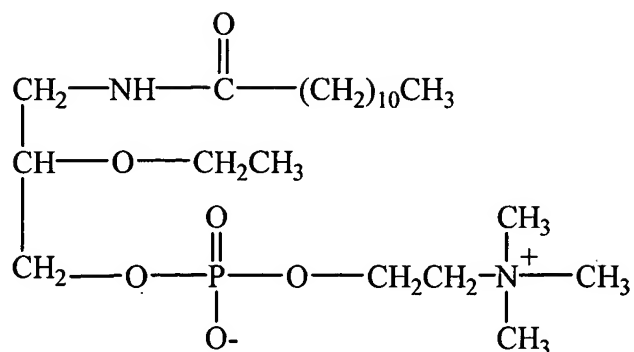
R₂ is -OX, where X is C₁-C₂₂ alkyl, C₂-C₂₂ alkenyl, C₂-C₂₂ alkynyl; and

R₃ is phosphocholine;

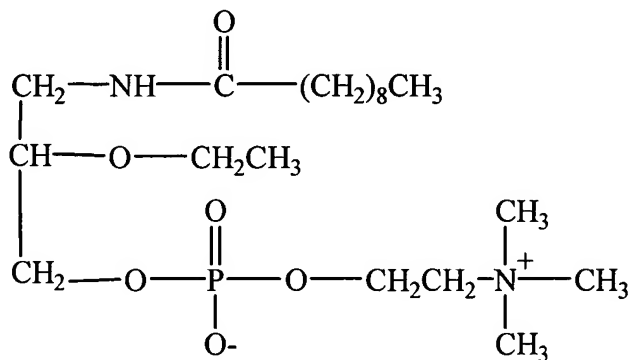
optionally with a pharmaceutically acceptable carrier or diluent.

2. The method of claim 1, wherein
Y is C₁-C₁₄ alkyl, C₂-C₁₄ alkenyl, or C₂-C₁₄ alkynyl; and
X is C₁-C₁₄ alkyl, C₂-C₁₄ alkenyl, or C₂-C₁₄ alkynyl.
3. The method of claim 1 wherein:
Y is -C₁₁H₂₃, -C₁₀H₂₁ or -C₉H₁₉; and
X is -CH₂CH₃, -(CH₂)₂CH₃, -(CH₂)₃CH₃, or -CH₁₀CH₂₁.
4. The method of claim 1, wherein Y is -C₁₁H₂₃ and X is C₁-C₅ alkyl.
5. The method of claim 1, wherein Y is -C₉H₁₉ and X is C₉-C₁₁ alkyl.

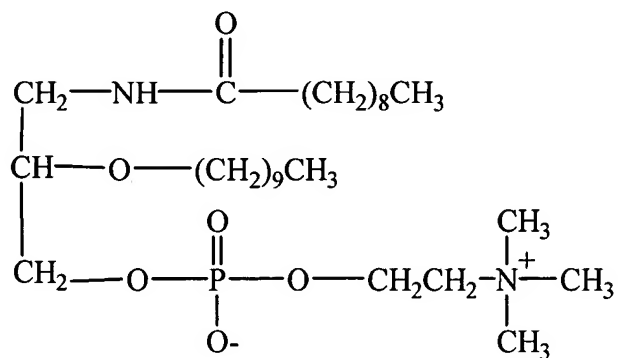
6. The method of claim 1, wherein the compound is:



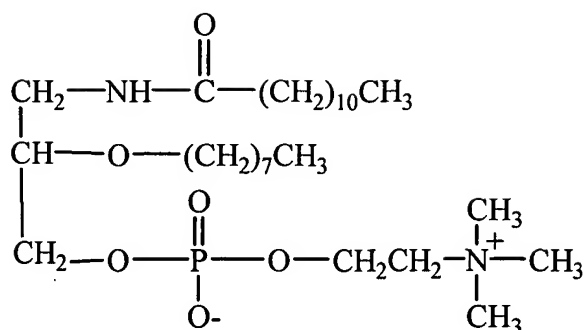
3-dodecanamido-2-ethoxypropyl-1-phosphocholine;



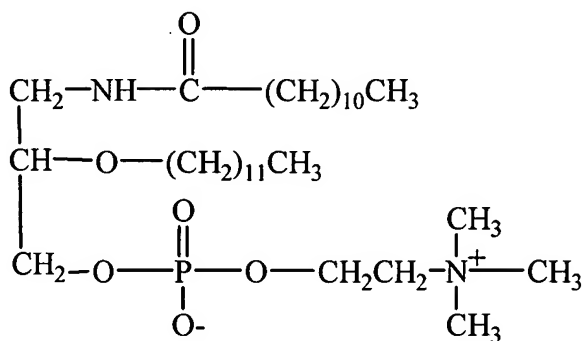
3-decanamido-2-ethoxypropyl-1-phosphocholine;



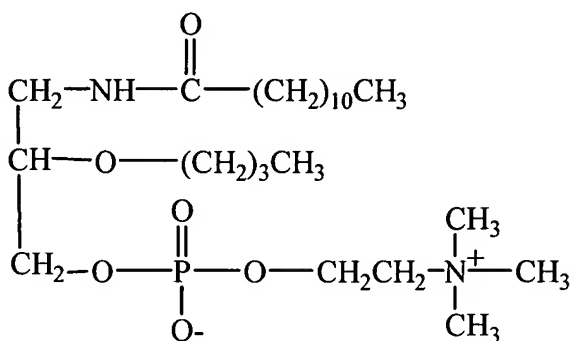
3-decanamido-2-decyloxypropyl-1-phosphocholine;



3-dodecanamido-2-octyloxypropyl-1-phosphocholine;



3-dodecanamido-2-dodecyloxy-1-phosphocholine; or

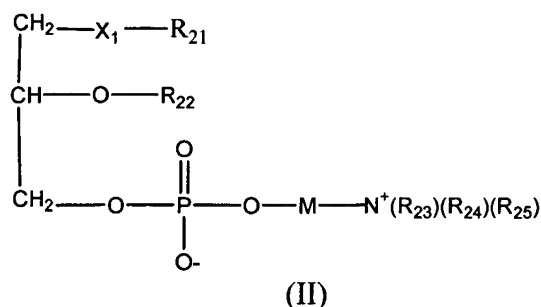


3-dodecanamido-2-butyloxypropyl-1-phosphocholine;

or a combination thereof.

7. The method of claim 1, wherein the virus is a coronavirus.
8. The method of claim 7, wherein the coronavirus is SARS-CoV.
9. The method of claim 1, wherein the virus is a herpes virus.
10. The method of claim 9, wherein the herpes virus is varicella zoster virus.

11. The method of claim 9, wherein the herpes virus is cytomegalovirus.
12. The method of claim 1, wherein the host is a mammal.
13. The method of claim 1, wherein the host is a human.
14. A method for treating a host infected with a togavirus, herpes virus or coronavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula II:



wherein:

M is C₂-C₄ alkyl;

X₁ is -S-, -O-, -NH-, or -NHC(O)-;

R₂₁ is -C₁-C₂₀ straight chain alkyl, -C₂-C₂₀ straight chain alkylene containing not more than four double bonds, or aryl;

R₂₂ is -C₁-C₂₀ straight chain alkyl, -C₂-C₂₀ straight chain alkylene containing not more than four double bonds, or aryl; and

R₂₃, R₂₄, and R₂₅ are each independently either hydrogen, methyl, ethyl, propyl, or isopropyl;

optionally with a pharmaceutically acceptable carrier or diluent.

15. The method of claim 14 wherein:

M is -CH₂CH₂-;

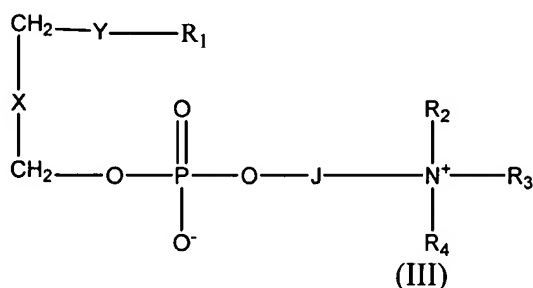
X₁ is -S-, -O-, -NH-, or -NHC(O)-;

R₂₁ is C₁-C₁₆ straight chain alkyl, or -C₂-C₁₆ straight chain alkylene containing not more than one double bond;

R₂₂ is C₁-C₁₆ straight chain alkyl, or -C₂-C₁₆ straight chain alkylene containing not more than one double bond; and

R₂₃, R₂₄, and R₂₅ are each independently hydrogen or methyl.

16. The method of claim 14 wherein:
R₂₂ is C₁-C₅ straight chain alkyl, or -C₂-C₅ straight chain alkylene containing not more than one double bond.
17. The method of claim 15, wherein R₂₁ is -C₉-C₁₂ alkyl, and R₂₂ is -C₁-C₁₂ alkyl.
18. The method of claim 15, wherein R₂₁ is -C₉-C₁₂ alkyl, and R₂₂ is -C₁-C₅ alkyl.
19. The method of claim 15, wherein R₂₁ is -C₉-C₁₂ alkyl, and R₂₂ is -C₈-C₁₂ alkyl.
20. The method of claim 14, wherein the virus is a coronavirus.
21. The method of claim 20, wherein the coronavirus is SARS-CoV.
22. The method of claim 14, wherein the virus is a herpes virus.
23. The method of claim 22, wherein the herpes virus is varicella zoster virus.
24. The method of claim 22, wherein the herpes virus is cytomegalovirus.
25. The method of claim 14, wherein the host is a mammal.
26. The method of claim 14, wherein the host is a human.
27. A method for treating a host infected with a togavirus, herpes virus or coronavirus comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula III:



wherein:

Y is -S-, -O-, -NH-, -N(CH₃)-, -NHC(O)-, or -N(CH₃)C(O)-;

R₁ is C₁-C₁₈ alkyl, C₂-C₁₈ alkenyl, C₂-C₁₈ alkynyl or aryl;

X is a covalent bond or methylene that is optionally substituted with hydroxyl, C₁-C₂₀ alkyl, -O-(C₁-C₂₀ alkyl), -S-(C₁-C₂₀ alkyl), -(C(O)N(C₁-C₂₀ alkyl), C₂-C₂₀ alkenyl, -O-(C₂-C₂₀ alkenyl), -S-(C₂-C₂₀ alkenyl), -(C(O)N(C₂-C₂₀ alkenyl), C₂-C₂₀ alkynyl, -O-(C₂-C₂₀ alkynyl), -S-(C₂-C₂₀ alkynyl) or -(C(O)N(C₂-C₂₀ alkynyl);

J is C₁-C₄ alkyl optionally substituted one to three times with methyl or ethyl; and

R₂, R₃, and R₄ are H or C₁-C₃ alkyl;

optionally with a pharmaceutically acceptable carrier or diluent.

28. The method of claim 27 wherein:

Y is -NHC(O)-;

R₁ is -C₆-C₁₈ alkyl;

X is -CH-O-(C₁-C₁₈ alkyl) or -CH-O-(C₁-C₁₈ alkenyl);

J is -CH₂CH₂-; and

R₂, R₃, and R₄ are each methyl.

29. The method of claim 28, wherein X is -CH-O-(C₁-C₅ alkyl) or -CH-O-(C₂-C₅ alkenyl);

30. The method of claim 28, wherein R₁ is -C₈-C₁₂ alkyl and X is -CH-O-(C₁-C₅ alkyl) or -CH-O-(C₂-C₅ alkenyl).

31. The method of claim 28, wherein R₁ is -C₈-C₁₂ alkyl and X is -CH-O-(C₈-C₁₂ alkyl) or -CH-O-(C₈-C₁₂ alkenyl).

32. The method of claim 27, wherein the virus is a coronavirus.

33. The method of claim 32, wherein the coronavirus is SARS-CoV.

34. The method of claim 27, wherein the virus is a herpes virus.

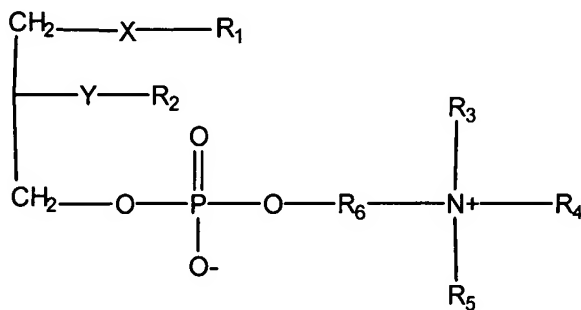
35. The method of claim 34, wherein the herpes virus is varicella zoster virus.

36. The method of claim 34, wherein the herpes virus is cytomegalovirus.

37. The method of claim 27, wherein the host is a mammal.

38. The method of claim 27, wherein the host is a human.

39. A method for treating a host infected with a coronavirus, herpes virus or togavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula IV:



(IV)

wherein:

R₁ is a C₆-C₁₈ alkyl, C₆-C₁₈ alkenyl, or C₆-C₁₈ alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

X is -NHC(O)-, -N(CH₃)C(O)-, -C(O)NH-, -C(O)N(CH₃)-, -S-, -S(O)-, -(SO₂)-, -O-, -NH-, and -N(CH₃)-;

R₂ is a C₁-C₁₄ alkyl, C₂-C₁₄ alkenyl, or C₂-C₁₄ alkynyl that is optionally substituted from 1 to 5 times with -OH, -COOH, oxo, amino, or aryl;

Y is -NHC(O)-, -N(CH₃)C(O)-, -C(O)NH-, -C(O)N(CH₃)-, -S-, -S(O)-, -(SO₂)-, -O-, -NH-, -N(CH₃)-, or -OC(O)-;

R₆ is a C₂-C₆ alkyl, C₂-C₆ alkenyl, or C₂-C₆ alkynyl; and

R₃, R₄, and R₅ are independently methyl or ethyl, or R₃ and R₄ together form an aliphatic or heterocyclic ring having five or six ring atoms and R₅ is methyl or ethyl; optionally with a pharmaceutically acceptable carrier or diluent.

40. The method of claim 39 wherein

R₂ is C₁-C₁₄ alkyl, C₂-C₁₄ alkenyl, or C₂-C₁₄ alkynyl;

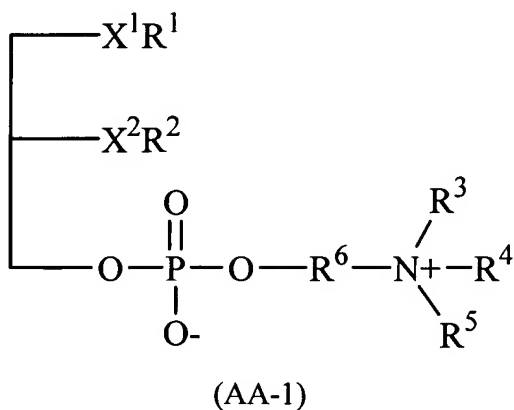
R₆ is CH₂CH₂; and

R₃, R₄, and R₅ are each independently CH₃.

41. The method of claim 40, wherein R₂ is -C₁-C₅ alkyl or -C₁-C₅ alkenyl.

42. The method of claim 40, wherein R₁ is -C₈-C₁₂ alkyl and R₂ is -C₈-C₁₂ alkyl.

43. The method of claim 40, wherein R_1 is $-C_8-C_{12}$ alkyl and R_2 is $-C_1-C_5$ alkyl.
44. The method of claim 40, wherein R_1 is $-C_8-C_{12}$ alkyl and R_2 is $-C_8-C_{12}$ alkyl.
45. The method of claim 39, wherein:
 X is $-NHC(O)-$, $-N(CH_3)C(O)-$, $-C(O)NH-$, or $-C(O)N(CH_3)-$; and
 Y is $-O-$, $-NH-$, or $-N(CH_3)-$.
46. The method of claim 39, wherein the virus is a coronavirus.
47. The method of claim 46, wherein the coronavirus is SARS-CoV.
48. The method of claim 39, wherein the virus is a herpes virus.
49. The method of claim 48, wherein the herpes virus is varicella zoster virus.
50. The method of claim 47, wherein the herpes virus is cytomegalovirus.
51. The method of claim 39, wherein the host is a mammal.
52. The method of claim 39, wherein the host is a human.
53. A method for treating a host infected with a coronavirus, herpes virus or togavirus, comprising administering an anti-viral effective amount of a compound, or a pharmaceutically acceptable salt or prodrug thereof, having a structure of Formula AA-1:



wherein:

- X^1 is $-NHC(O)-$;
 X^2 is $-O-$;
 R^1 is $-C_1-C_{22}$ alkyl;
 R^2 is $-C_1-C_{22}$ alkyl;
 R^6 is $-CH_2CH_2-$; and

R^3 , R^4 and R^5 are methyl.

54. The method of claim 53, wherein:

R^1 is $-\text{CH}_3$, $-\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$,
 $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$, $-(\text{CH}_2)_5\text{CH}_3$, $-(\text{CH}_2)_6\text{CH}_3$, $-(\text{CH}_2)_7\text{CH}_3$, $-(\text{CH}_2)_8\text{CH}_3$, $-(\text{CH}_2)_9\text{CH}_3$, $-(\text{CH}_2)_{10}\text{CH}_3$, $-(\text{CH}_2)_{11}\text{CH}_3$, $-(\text{CH}_2)_{12}\text{CH}_3$ or $-(\text{CH}_2)_{13}\text{CH}_3$; and
 R^2 is $-\text{CH}_3$, $-\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$,
 $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$, $-(\text{CH}_2)_5\text{CH}_3$, $-(\text{CH}_2)_6\text{CH}_3$, $-(\text{CH}_2)_7\text{CH}_3$, $-(\text{CH}_2)_8\text{CH}_3$, $-(\text{CH}_2)_9\text{CH}_3$, $-(\text{CH}_2)_{10}\text{CH}_3$, $-(\text{CH}_2)_{11}\text{CH}_3$, $-(\text{CH}_2)_{12}\text{CH}_3$ or $-(\text{CH}_2)_{13}\text{CH}_3$.

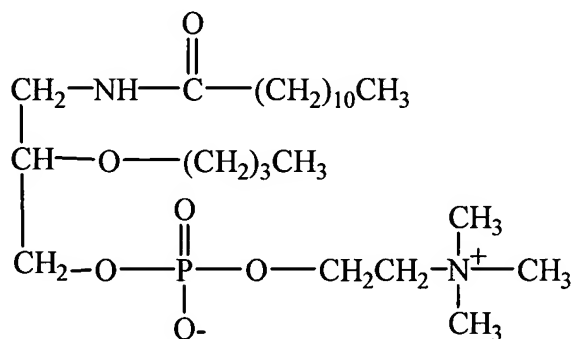
55. The method of claim 53, wherein the host is infected with a coronavirus.

56. The method of claim 55, wherein the coronavirus is SARS-CoV.

57. The method of claim 56, wherein:

R^1 is $-(\text{CH}_2)_9\text{CH}_3$, $-(\text{CH}_2)_{10}\text{CH}_3$, or $-(\text{CH}_2)_{11}\text{CH}_3$; and
 R^2 is $-\text{CH}_2\text{CH}_2\text{CH}_3$, $-\text{CH}_2\text{CH}_2\text{CH}_2\text{CH}_3$, or $-\text{CH}_2(\text{CH}_2)_3\text{CH}_3$.

58. The method of claim 56, wherein the compound is:



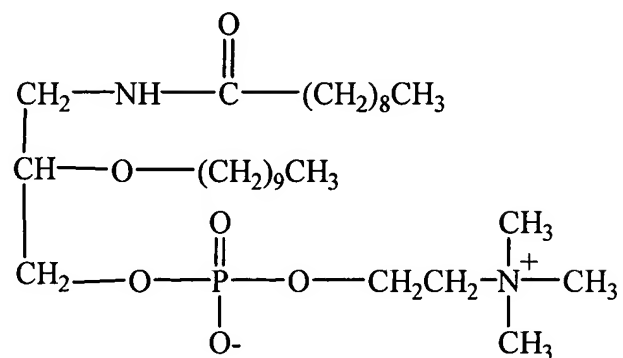
59. The method of claim 53, wherein the host is infected with a herpes virus.

60. The method of claim 59, wherein the herpes virus is varicella zoster virus.

61. The method of claim 60, wherein:

R^1 is $-(\text{CH}_2)_7\text{CH}_3$, $-(\text{CH}_2)_8\text{CH}_3$, or $-(\text{CH}_2)_9\text{CH}_3$;
 R^2 is $-(\text{CH}_2)_9\text{CH}_3$, $-(\text{CH}_2)_{10}\text{CH}_3$, or $-(\text{CH}_2)_{11}\text{CH}_3$;

62. The method of claim 60, wherein the compound is:



63. The method of claim 59, wherein the herpes virus is cytomegalovirus.
64. The method of claim 1, wherein the virus is a togavirus.
65. The method of claim 1, wherein the compound is administered orally, by inhalation, intravenously, parenterally, intradermally, subcutaneously or topically.